

Title (en)
COMPOSITIONS AND METHODS FOR FABRICATING DURABLE, LOW-ICE-ADHESION COATINGS

Title (de)
ZUSAMMENSETZUNGEN UND VERFAHREN ZUR HERSTELLUNG VON BESTÄNDIGEN BESCHICHTUNGEN MIT GERINGER VEREISUNG

Title (fr)
COMPOSITIONS ET PROCÉDÉS DE FABRICATION DE REVÊTEMENTS DURABLES À FAIBLE ADHÉRENCE À LA GLACE

Publication
EP 4039757 B1 20231227 (EN)

Application
EP 22158012 A 20170531

Priority

- US 201662345250 P 20160603
- US 201715608975 A 20170530
- EP 17807358 A 20170531
- US 2017035082 W 20170531

Abstract (en)
[origin: WO2017210230A1] This invention provides durable, low-ice-adhesion coatings with excellent performance in terms of ice-adhesion reduction. Some variations provide a low-ice-adhesion coating comprising a microstructure with a first-material phase and a second-material phase that are microphase-separated on an average length scale of phase inhomogeneity from 1 micron to 100 microns. Some variations provide a low-ice-adhesion material comprising a continuous matrix containing a first component; and a plurality of discrete inclusions containing a second component, wherein the inclusions are dispersed within the matrix to form a phase-separated microstructure that is inhomogeneous on an average length scale from 1 micron to 100 microns, wherein one of the first component or the second component is a low-surface-energy polymer, and the other is a hygroscopic material. The coatings are characterized by an AMIL Centrifuge Ice Adhesion Reduction Factor up to 100 or more. These coatings are useful for aerospace surfaces and other applications.

IPC 8 full level
C09D 127/12 (2006.01); **C09D 5/00** (2006.01); **C09D 5/02** (2006.01); **C09D 201/04** (2006.01)

CPC (source: EP)
C08G 18/10 (2013.01); **C08G 18/246** (2013.01); **C08G 18/4825** (2013.01); **C08G 18/5015** (2013.01); **C08G 18/758** (2013.01); **C08G 81/00** (2013.01); **C08G 81/025** (2013.01); **C08G 81/027** (2013.01); **C09D 5/00** (2013.01); **C09D 5/02** (2013.01); **C09D 7/70** (2017.12); **C09D 171/02** (2013.01); **C09D 175/08** (2013.01); **C08G 83/008** (2013.01)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2017210230 A1 20171207; CN 109476947 A 20190315; CN 109476947 B 20210723; EP 3464493 A1 20190410; EP 3464493 A4 20200226; EP 3464493 B1 20220223; EP 4039757 A1 20220810; EP 4039757 B1 20231227

DOCDB simple family (application)
US 2017035082 W 20170531; CN 201780045653 A 20170531; EP 17807358 A 20170531; EP 22158012 A 20170531